Alexander Rossi Miller

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2023–	Member, Center for Communications Research, Princeton
2022–2023	Guest Researcher, Technische Universität Kaiserslautern, Germany
2017–2020	Member, Universität Wien, Vienna, Austria
2017	Visiting Scientist, Institut Henri Poincaré, Paris, France
2014–2017	Research Assistant Professor, University of Illinois

Publications

23. Denseness results for zeros and roots of unity in character tables
Alexander R. Miller
Ann. Fac. Sci. Toulouse Math., to appear

22. Short character values on large conjugacy classes
Alexander R. Miller
Submitted

21. Character and class parameters from entries of character tables of symmetric groups
Alexander R. Miller
Math. Proc. Cambridge Philos. Soc., to appear

20. Large-scale Monte Carlo simulations for zeros in character tables of symmetric groups
Alexander R. Miller and Danny Scheinerman
Math. Comp. **94** (2025) 505–515

19. Covering numbers for characters of symmetric groups
Alexander R. Miller
Ann. Sc. Norm. Sup. Pisa Cl. Sci. (5) **26** (2025) 517–524

18. The characters of symmetric groups that depend only on length
Alexander R. Miller
Math. Zeit. **304** (2023), no. 9, 1–14

17. Zeros and roots of unity in character tables
Alexander R. Miller
Enseign. Math. **70** (2024) 151–164

16. On Foulkes characters
Alexander R. Miller
Math. Ann. **381** (2021) 1589–1614

15. The sparsity of character tables of high rank groups of Lie type
Michael J. Larsen and Alexander R. Miller
Represent. Theory **25** (2021) 173–192

14. Many zeros of many characters of GL(n,q)
Patrick X. Gallagher, Michael J. Larsen, and Alexander R. Miller
Int. Math. Res. Not. IMRN **2022** (2022) 4376–4386

13. Dense proportions of zeros in character values
Alexander R. Miller
C. R. Acad. Sci. Paris, Sér. I **357** (2019) 771–772

12. Character restrictions and reflection groups
Eugenio Giannelli and Alexander R. Miller
J. Algebra **531** (2019) 336–348

11. On parity and characters of symmetric groups
Alexander R. Miller
J. Combin. Theory, Ser. A **162** (2019) 231–240

10. Walls in Milnor fiber complexes
Alexander R. Miller
Doc. Math. **23** (2018) 1247–1261

9. Orthogonal polynomials and Smith normal form
Alexander R. Miller and Dennis Stanton
Monatsh. Math. **187** (2018) 125–145

8. Some characters that depend only on length
Alexander R. Miller
Math. Res. Lett. **24** (2017) 879–891

7. Eigenspace arrangements of reflection groups
Alexander R. Miller
Trans. Amer. Math. Soc. **367** (2015) 8543–8578

6. Foulkes characters for complex reflection groups
Alexander R. Miller
Proc. Amer. Math. Soc. **143** (2015) 3281–3293

5. The probability that a character value is zero for the symmetric group
Alexander R. Miller
Math. Zeit. **277** (2014) 1011–1015

4. Reflection arrangements and ribbon representations
Alexander R. Miller
Ph.D. Thesis, 2013
European J. Combin. **39** (2014) 24–56

3. Differential posets have strict rank growth: a conjecture of Stanley
(Positively answers 25-year-old question of R. P. Stanley from 1988 in JAMS)
Alexander R. Miller
Order **30** (2013) 657–662

2. Note on 1-crossing partitions
M. Bergerson, A. Miller, A. Pliml, V. Reiner, P. Shearer, D. Stanton, N. Switala
Ars Combinatoria **99** (2011) 83–87

1. Differential posets and Smith normal forms
Alexander R. Miller and Victor Reiner
Order **26** (2009) 197–228

Oberwolfach Reports

2. Vanishing results for character tables
   Alexander R. Miller
   in "Character Theory and Categorification", pp. 2267–2333,
   Oberwolfach Reports **19** (2022), Report No. 39, 2288–2291

1. Milnor fiber complexes and some representations
   Alexander R. Miller
   in "Topology of Arrangements and Representation Stability", pp. 43–123,
   Oberwolfach Reports **15** (2018), Report No. 2, 109–113

Lectures (in-person only)

2022	Oct	Darstellungstheorietage, Technische Universität Kaiserslautern, Germany
2022	Aug	Character Theory and Categorification, MFO, Oberwolfach, Germany
2020	Feb	Bern–Neuchâtel–Fribourg Intercity Seminar, Universität Bern, Switzerland
2019	Sep	Austrian Mathematical Society Conference, Dornbirn, Austria
2019	Jan	Combinatoire Énumérative et Analytic, Université Paris Diderot, Paris, France
2018	Nov	Einstein Workshop on Algebraic Combinatorics, Freie Universität Berlin, Germany
2018	May	Algebra & Representation Theory Seminar, University of Cambridge, United Kingdom
2018	Mar	Séminaire Lotharingien de Combinatoire, Institut Camille Jordan, Lyon, France
2018	Mar	Arbeitsgemeinschaft für Diskrete Mathematik, Technische Universität Wien, Austria
2018	Jan	Topology of Arrangements and Representation Stability, MFO, Oberwolfach, Germany
2017	Dec	Algebraic and Enumerative Combinatorics, SFB Statusseminar, Strobl, Austria
2017	Nov	Algebra und Algebraischen Kombinatorik, Leibniz Universität Hannover, Germany
2017	Sep	Séminaire Lotharingien de Combinatoire, Bertinoro, Italy